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Part 1

W. J. FRANCIS




W. J. P. V. A. N. C. I. S.



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Ontario. Hydro-electric Inquiry Commission  
Engineering data



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*H. E. T. Hare*MEMORANDUM RE PROFESSIONAL WORK OFWALTER J. FRANCIS.

Montreal, Que.,  
March 1st, 1924.

Consulting Engineer, 260 St. James Street, Montreal, Born, Toronto, Ontario, January 28th, 1872, son of Joseph and Elizabeth Francis; Educated, Ontario Public Schools; Toronto Collegiate Institute; University of Toronto; Honour Graduate of Ontario School of Practical Science, in Civil Engineering, 1893; Toronto University Degree of C. E.; Inspector and draughtsman on construction of Toronto Belt Line Railway, 1889-1893; Topographer on Nipissing and St. James Bay Railway Location, summer 1893; Assistant engineer in charge of design and construction of Toronto Union Station, cost \$700,000, 1893-1896; Chief Draughtsman on bridge construction for Central Bridge and Engineering Company, Peterborough, Ontario, 1896-1897; in service of Department of Railways and Canals of Canada, 1898-1906; (designed and had charge of the construction of two hydraulic lift locks on Trent Canal, costing about a million dollars each; also, Division Engineer-in-charge of ten miles of canal construction, costing over a million dollars; awarded the Gzowski medal for 1906, by the Canadian Society of Civil Engineers, for paper describing the two lift locks); in charge of construction of 32,000 h.p. hydro-electric plant at Bonnington Falls, B.C., for the West Kootenay Power Company, and representing Ross & Holgate, 1906, cost about \$1,200,000; Assistant Manager and Chief Engineer of the Dominion Engineering and Construction Company, Montreal, 1907; (work done in general contracting and reinforced concrete buildings amounted to about one million dollars); engineer for Royal Commission of Inquiry into Quebec Bridge disaster, studied and reported on wreck, developed in detail the theory for the collapse, 1907 (see drawing No. 19 of the Commission's report to the Governor-General-in-Council, 1908); arbitrations, valuations, etc., on sundry cases for the courts; Granger Building collapse; appointed exclusive Canadian writer for the "Engineer" of London, England, 1908; examinations and reports on various hydro-electric power propositions; report on hydro-electric power station for Campbellford, Ont., 1909, (took over the engineering, demolished and reconstructed the plant); preliminary survey and report on two-million-dollar hydro-electric proposition on the North Saskatchewan River, near Edmonton, 1909; report on public utilities of the City of Edmonton, Alberta, with investigations into costs and operation of the same, 1910; examinations and reports on various hydro-electric propositions, 1910; examinations and report on Herald Building disaster, Montreal, which case involved the destruction of the building and overhead sprinkler tank, and the loss of over thirty lives, 1910; examinations and report on the Boxer Building collapse, Montreal, 1910; examinations and reports of elevated water tanks of Montreal, 1910; examination and report on construction of the Don syphon for the main intercepting sewers for the City of Toronto, 1910; representing the Canadian Society of Civil Engineers on committee appointed by City of Montreal to revise the building by-laws of the city, 1910; later appointed



MEMORANDUM RE PROFESSIONAL WORK OF

WALTER J. FRANCIS

Montreal, Que.,  
March 1st, 1934.

Consulting Engineer, 280 St. James Street, Montreal, Born, Toronto, Ontario,  
January 28th, 1872, son of Joseph and Elizabeth Francis; Educated, Ontario  
Public Schools; Toronto College Institute; University of Toronto; Honour  
Graduate of Ontario School of Practical Science, in Civil Engineering, 1895;  
Toronto University Degree of C. E.; Inspector and draughtsman on construction  
of Toronto Belt Line Railway, 1895-1898; Topographer on Nipissing and St. James  
Bay Railway location, summer 1895; Assistant engineer in charge of design and  
construction of Toronto Union Station, cost \$700,000, 1895-1898; Chief Draughts-  
man on bridge construction for Central Bridge and Engineering Company, Peter-  
borough, Ontario, 1898-1899; in service of Department of Railways and Canals  
of Canada, 1898-1908; (designed and had charge of the construction of two  
hydraulic lift locks on Trent Canal, costing about a million dollars each;  
also, Division Engineer-in-charge of ten miles of canal construction, costing  
over a million dollars; awarded the Gzowski medal for 1908, by the Canadian  
Society of Civil Engineers, for paper describing the two lift locks); in charge  
of construction of 32,000 h.p. hydro-electric plant at Bonnington Falls, B.C.,  
for the West Kootenay Power Company, and representing Ross & Holgate, 1906,  
cost about \$1,200,000; Assistant Manager and Chief Engineer of the Dominion  
Engineering and Construction Company, Montreal, 1907; (work done in general  
contracting and reinforced concrete buildings amounted to about one million  
dollars); engineer for Royal Commission of Inquiry into Quebec Bridge disaster,  
studied and reported on wreck, developed in detail the theory for the collapse,  
1907 (see drawing No. 19 of the Commission's report to the Governor-General-in-  
Council, 1908); arbitrations, valuations, etc., on sundry cases for the courts;  
Granger Building collapse; appointed exclusive Canadian writer for the "Engineer"  
of London, England, 1908; examinations and reports on various hydro-electric  
power propositions; report on hydro-electric power station for Campbellford,  
Ont., 1909; (took over the engineering, demolished and reconstructed the plant);  
preliminary survey and report on two-million-dollar hydro-electric proposition  
on the North Saskatchewan River, near Edmonton, 1909; report on public utilities  
of the City of Edmonton, Alberta, with investigations into costs and operation  
of the same, 1910; examinations and reports on various hydro-electric proposi-  
tions, 1910; examinations and report on Herald Building disaster, Montreal, which  
case involved the destruction of the building and overhead sprinkler tank, and  
the loss of over thirty lives, 1910; examinations and report on the Boxer  
Building collapse, Montreal, 1910; examinations and reports of elevated water  
tanks of Montreal, 1910; examination and report on construction of the Don syphon  
for the main intercepting sewers for the City of Toronto, 1910; representing  
the Canadian Society of Civil Engineers on committee appointed by City of  
Montreal to revise the building by-laws of the city, 1910; later appointed

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(2)

Chairman of the sub-committee of same; sundry court cases involving engineering questions, 1910; report on hydro-electric and steam-electric plants for the City of Quebec, 1910; reports on various hydro-electric propositions, 1910; took Mr. Frederick B. Brown, M.Sc. into partnership, 1910. Since 1910 his work has included among other things, designs and reports on a great number of hydro-electric and steam power plants; investigations and reports on buildings, especially foundations; investigations, reports and advice on many important structures; court work; construction of Moose Jaw Water supply. (\$600,000 construction in eight and one-half months. See "Engineering Record" June 21st, 1913); designs for 250,000 H.P. hydro-electric plant at Carillon, probable expenditure over \$18,000,000.00; investigation of Edmonton Water Supply and of underground electrical distribution; waterworks, roads, and so forth, for municipalities; electrical engineer for Protestant Board of School Commissioners, Montreal; sewer cases in Redcliff (Alberta), Maisonneuve, St. Lambert, Lachine and Westmount, Quebec, 1914; water supply, Ottawa, Canada; asphalt pavements, Westmount, Quebec, 1914 and 1915, sewer cases, Peterborough, Ont.; pavements and sewers, St. Lambert, Quebec; expropriation proceedings, Power Co., Peterborough, Ont.; large building foundations, Montreal; building questions in connection with Mount Royal Tunnel, Montreal; engineering of New Brunswick Metals, Lake George, N.B.; munition plant and freight vessel work 1914-1918; City of Sherbrooke hydro-electric power reports; munition plant power problems; Montreal aqueduct report by Ratepaying Engineers; Montreal aqueduct reconstruction, and completion as Member of Montreal Water Board; municipal electric lighting systems for Montreal West; 100,000- H.P. hydro-electric development on Gatineau River; Hydro-Radial Railway enquiry, Ontario; reference of matter of Dominion Iron & Steel Company, and Federal Government regarding construction of large plate mill and contract for ship plates; advisory engineering services for Royal Commission of Inquiry into Hydro-Electric Power Commission of Ontario; power contracts Welland Ship Canal construction; advisory engineering for Lower St. Lawrence Power Company; design and supervision of hydro-electric power plant on Otonabee River, Peterborough; professional services for public utility companies and law firms, involving arbitrations, valuations, vibrations, rates, and other engineering questions.

American Institute of Steel Erection Engineers Inc. (New York).  
 Charter Member.

Institution of Civil Engineers. (Great Britain).  
 Member, elected 1913.

Engineering Society. University of Toronto.  
 Life Member.

Engineering Alumni Association. University of Toronto.  
 Charter Member.  
 President, 1920, 1921, 1922.  
 Councillor, 1923, 1924.



Chairman of the sub-committee of same; sundry court cases involving engineering questions, 1910; report on hydro-electric and steam-electric plants for the City of Quebec, 1910; reports on various hydro-electric propositions, 1910; took Mr. Frederick B. Brown, M.Sc. into partnership, 1910. Since 1910 his work has included among other things, designs and reports on a great number of hydro-electric and steam power plants; investigations and reports on buildings, especially foundations; investigations, reports and advice on many important structures; court work; construction of Moose Jaw Water Supply (\$500,000) construction in eight and one-half months. See "Engineering Record" June 21st, 1913; designs for 250,000 H.P. hydro-electric plant at Gaspé, probable expenditure over \$12,000,000.00; investigation of Edmonton Water Supply and of underground electrical distribution; waterworks, roads, and so forth, for municipalities; electrical engineer for Protestant Board of School Commissioners, Montreal; sewer cases in Redshift (Alberta), Maisonneuve, St. Lambert, Lachine and Westmount, Quebec, 1914; water supply, Ottawa, Canada; asphalt pavements, Westmount, Quebec, 1914 and 1915, sewer cases, Peterborough, Ont.; pavements and sewers, St. Lambert, Quebec; expropriation proceedings, Power Co., Peterborough, Ont.; large building foundations, Montreal; building questions in connection with Mount Royal Tunnel, Montreal; engineering of New Brunswick Metals, Lake George, N.B.; munition plant and freight vessel work 1914-1918; City of Sherbrooke hydro-electric power reports; munition plant power problems; Montreal aqueduct report by Retreating Engineers; Montreal aqueduct reconstruction and completion as Member of Montreal Water Board; municipal electric lighting systems for Montreal West; 100,000 H.P. hydro-electric development on Gatineau River; Hydro-Railway Railway company, Ontario; reference of matter of Dominion Iron & Steel Company, and Federal Government regarding construction of large plate mill and contract for ship plates; advisory engineering services for Royal Commission of Inquiry into Hydro-Electric Power Commission of Ontario; power contracts Welland Ship Canal construction; advisory engineering for Lower St. Lawrence Power Company; design and supervision of hydro-electric power plant on Otonabee River, Peterborough; professional services for public utility companies and law firms, involving arbitrations, valuations, vibrations, rates, and other engineering questions.



MEMORANDUM RE AFFILIATIONS AND INTERESTS

of

WALTER J. FRANCIS

Montreal, Que.,  
March 1st, 1924.

Engineering Institute of Canada (formerly Canadian Society of Civil Engineers).

Associate Member, 1896-1902.

Member, elected 1902.

Life Member, 1923.

Gzowski Medallist, 1906.

Councillor, 1910, 1913 to 1918.

Chairman of Montreal Branch, 1916 to 1919.

Vice President of the Institute, 1919, 1920, 1921, 1922.

President of the Institute, 1923, 1924.

Corporation of Professional Engineers of Quebec.

Charter Member.

Vice-Chairman, 1920.

Canadian Engineering Standards Association.

Member Main Committee, 1917 to 1924.

World Power Conference.

Member

American Society of Civil Engineers.

Associate Member, 1901 to 1904.

Member, elected 1904.

American Institute of Consulting Engineers Inc. (New York).

Charter Member.

Institution of Civil Engineers. (Great Britain).

Member, elected 1913.

Engineering Society, University of Toronto.

Life Member, 1917.

Engineering Alumni Association, University of Toronto.

Charter Member.

President, 1920, 1921, 1922.

Councillor, 1923, 1924.



MEMORANDUM RE AFFILIATIONS AND INTERESTS

of

WALTER J. FRANCIS

Montreal, Que.,  
March 1st, 1934.

- Engineering Institute of Canada (formerly Canadian Society of Civil Engineers).  
Associate Member, 1898-1902.  
Member, elected 1902.  
Life Member, 1923.  
Gowaski Medalist, 1906.  
Councillor, 1910, 1913 to 1918.  
Chairman of Montreal Branch, 1916 to 1919.  
Vice President of the Institute, 1919, 1920, 1921, 1922.  
President of the Institute, 1923, 1924.
- Corporation of Professional Engineers of Quebec.  
Charter Member.  
Vice-Chairman, 1920.
- Canadian Engineering Standards Association.  
Member Main Committee, 1917 to 1924.
- World Power Conference.  
Member
- American Society of Civil Engineers.  
Associate Member, 1901 to 1904.  
Member, elected 1904.
- American Institute of Consulting Engineers Inc. (New York).  
Charter Member.
- Institution of Civil Engineers. (Great Britain).  
Member, elected 1913.
- Engineering Society, University of Toronto.  
Life Member.
- Engineering Alumni Association, University of Toronto.  
Charter Member.  
President, 1920, 1921, 1922.  
Councillor, 1923, 1924.



University of Toronto, Alumni Association.

Member of Montreal Branch.

Vice-President, Montreal Branch, 1920.

Member of Executive Committee, Montreal Branch 1921, 1922, 1923, 1924.

Rotary International.

Member, Rotary Club of Montreal, elected 1916.

President, Rotary Club of Montreal, 1917.

Honorary-Secretary, Rotary Club of Montreal, 1918 to 1921.

Chairman, Inter-City Relations Committee, International, 1917.

Member, Foreign Extensions Committee, International, 1918 to 1920.

Member, Canadian Advisory Committee, International, 1919-1920, 1920-1921.

Member, Classification Committee, International, 1921-1922.

Westmount Municipal Association.

Member.

Director, 1919, 1920, 1921.

Boy Scouts Association.

Member.

Member, Montreal Executive, 1920, 1921, 1922, 1923.

Chairman, Montreal Wolf Cubs, 1921, 1922, 1923.

Vice-President, Montreal Local Association, 1921-1922, 1922-1923.

President, Montreal Local Association, 1923-1924

Representative of Montreal Council to Quebec Provincial Association, 1923-1924.

Montreal Board of Trade.

Member.

Montreal Civic Improvement League.

Member.

Director, 1921, 1922, 1923, 1924.

American Public Health Association.

Member.

American Waterworks Association.

Member.

Montreal Homoeopathic Hospital Association.

Member.

Director, 1914 to 1924.

Vice-President, 1917.

Shriners Hospitals for Crippled Children.

Charter Member.

Director, 1922, 1923, 1924.

Secretary, 1922, 1923, 1924.



University of Toronto, Alumni Association  
Member of Montreal Branch.  
Vice-President, Montreal Branch, 1930.  
Member of Executive Committee, Montreal Branch 1931, 1932, 1933, 1934.

Rotary Club of Montreal  
Member, Rotary Club of Montreal, elected 1918.  
President, Rotary Club of Montreal, 1917.  
Honorary-Secretary, Rotary Club of Montreal, 1918 to 1921.  
Chairman, Inter-City Relations Committee, International, 1917.  
Member, Foreign Extension Committee, International, 1918 to 1920.  
Member, International Committee, International, 1917-1918.  
Member, International Committee, International, 1917-1918.

Montreal Local Association  
Member, 1917-1918.  
President, 1917-1918.

Montreal Local Association  
Member.  
Member, Montreal Local Association, 1917-1918.  
Chairman, Montreal Local Association, 1917-1918.  
Vice-President, Montreal Local Association, 1917-1918.  
President, Montreal Local Association, 1917-1918.

Montreal Local Association  
Member.

Montreal Local Association  
Member.  
President, 1917-1918.

Montreal Local Association  
Member.

Montreal Local Association  
Member.

Montreal Local Association  
Member.

Director, 1914 to 1924.  
Vice-President, 1917.

Montreal Local Association  
Member.  
Member, 1917-1918.  
President, 1917-1918.



Masonry, - A. F. & A. M.

Corinthian Lodge, No. 101 G. R. O.; Member, 1901.  
 " " " " J. W., 1906.  
 " " " " Life Member, 1923.  
 Royal Albert Lodge, No. 25 G. R. O.; Member, 1911.  
 " " " " J. W., 1920.  
 " " " " Life Member, 1921.

R. A. M.

Corinthian Chapter, No. 36 G. R. O.; Member, 1902.  
 " " " " Z, 1905-6.  
 " " " " Honorary Life Member, 1923.  
 Carnarvon Chapter, No. 5 G. R. O.; Member P. Z., 1910.  
 Fairmount Chapter, No. 14 G. R. O.; Hon. Member, 1915.  
 Westmount Chapter, No. 17 G. R. O.; Hon. Member, 1922.  
 Royal Victoria Chapter, No. 18 G. R. O.; Hon. Member, 1922.  
 Grand Chapter of Quebec; D. G. S. Montreal District, 1915.  
 " " " " ; Grand Second Principal H., 1918-19.  
 " " " " ; Grand First Principal Z., 1920-21, 1921-22.  
 " " " " ; I. P. G. Z., 1922-1923, 1923-1924.

K. T.

Moore Preceptory; Member, 1903.  
 " " , P. P., 1904-5, 1905-6.  
 " " Life Member, 1923.  
 Sovereign Great Priory of Canada; Grand Captain of the Guard, 1921-22.

R. & S. M.

Victoria Council, No. 13; Member, 1911.

A. A. O. N. M. S.

Rameses Temple, Toronto; Member, 1902 to 1911.  
 Karnak Temple, Montreal; affiliated, 1911.  
 " " " ; Life Member, 1922.  
 " " " ; Representative to Imperial Council, 1924.

A. & A. S. R.

Hochelaga Grand Lodge of Perfection; Member, 1915.  
 Hochelaga S. C. R. C.; Member, 1917.  
 Montreal Sov. Consistory; Member, 1918.  
 " " " ; 32nd Degree, 1920.

Royal Order of Scotland.

Prov. Grand Lodge and Grand Chapter, Montreal; Member, 1921.

Montreal Masonic Memorial Temple Corporation.

Member.  
 Director, 1923, 1924.







(4)

University Club of Montreal.

Member, elected 1913.

Life Member, 1920.

Royal Societies Club, London, Eng.

Member, elected 1913.

National Club, Toronto.

Member, elected 1922.

Family Relationships and other Notes.

Married 1896 to Laura Elizabeth Grainger of Toronto.

Has two sons, Lieut. Edward W. Francis, R.A., born 1897, and

Francis Francis, (McGill Undergraduate), born 1905.

Residence, 444 Prince Albert Avenue, Westmount, Que.,

COPY



(1)

UNITED STATES OF AMERICA  
DEPARTMENT OF COMMERCE  
BUREAU OF ECONOMIC ANALYSIS  
WASHINGTON, D.C. 20540

OFFICE OF THE ASSISTANT SECRETARY FOR  
ECONOMIC ANALYSIS  
WASHINGTON, D.C. 20540

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# 36c

Part 2

24/2/11

IX-70-10

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Toronto,  
Friday,  
19th May, 1922.

- ✓ 1. Minutes,
- ✓ 2. Report on Interview with Premier re Mitchell.
3. Engagement of Mr. Bell re Press reports.
- ✓ 4. Re Secretary.
5. Are we leaving undone anything that we ought to be doing?
6. General Business.

547/1137.







CONFIDENTIAL

"E. R. C. CLARKSON & SONS" HEADINGS  
TRUSTEES, RECEIVERS, LIQUIDATORS  
15 Wellington St. West,

TORONTO, June 3, 1922.

F. W. Wagonast, Esq.,  
Bank of Hamilton Building,  
TORONTO.

Dear Sir:-

re Hydro-Electric Power Commission

You have requested me to prepare a memorandum for the assistance of the Commission of Enquiry, of which you are Secretary, in respect of -

(a) The conditions existing in regard to the necessity or non-necessity to provide sinking funds out of the cost of power charged to the Niagara System in respect of the \$5,000,000. of bonds issued by the Hydro-Electric Power Commission of Ontario and guaranteed by the Province of Ontario in connection with the purchase of \$10,000,000. of shares of the capital stock of the Ontario Power Company, and

(b) The bases prevailing for payment to the Province of Ontario of interest on its advances to the Commission and the allocation of such interest charges by the Commission.

In reply thereto I would state -

Re Ontario Power Company

Prior to 1917 there was no power in the Commission to construct or purchase works otherwise than out of advances made to it by the Province under the terms of the Power Commission Act, but in 1917 provisions were added to the Act whereunder the Commission was authorized to acquire shares in any incorporated company carrying on the business of developing, supplying or transmitting electric power or energy and to issue bonds, debentures or other securities in payment of such stock; while the Lieutenant-Governor in Council was authorized to guarantee payment of principal and interest of such bonds and to guarantee performance of any contract for purchase of the shares of such a company. These provisions were undoubtedly passed by the Legislature in direct anticipation of the purchase of shares of the Ontario Power Company







June 3, 1922.

As of date August 1st, 1917, the Commission purchased \$9,000,000. par value of shares of the Ontario Power Company out of a total capital issue of \$10,000,000. at a price of 80, and it was provided that the Commission would or could purchase the remaining outstanding \$1,000,000. of stock as the same became available at a similar price. In purchase of the shares the Commission issued forty year bonds, bearing 4 $\frac{1}{2}$ % interest, and guaranteed by the Province.

With the purchase effected in such manner, the following conditions obtained -

1. The Commission was the holder of a large majority of the capital stock of the Ontario Power Company but not the owner of the whole of the issued capital, a portion of which remained in the hands of the Public.

2. With shares of the Company in the hands of the Public and bonds and debentures issued by the Companies outstanding to the extent of many millions of dollars, the Ontario Power Company had to be operated as a separate entity and it was not possible to merge the works of the Company into the Niagara system.

3. There was no provision in the bonds issued by the Commission (for purchase of the shares of the Ontario Power Company) for setting aside of any sinking funds to redeem such bonds while, also, under section 23 of the Power Commission Act sinking funds were required to be provided (by way of inclusion in the cost of power to the municipalities) only in respect of such works as had been constructed out of advances made by the Province of Ontario to the Commission. Guarantee of the bonds by the Province was not an advance to the Commission - in the opinion of Counsel - within the meaning of section 23 of the Power Commission Act. Under the above conditions there was apparently nothing in the Power Commission Act requiring that sinking funds be charged into the cost of power to the Niagara system for amortization of the bonds of the Commission issued in purchase of the shares of the Ontario Power Company.

In the fiscal years ending October 31st, 1918, 1919 and 1920, the operations of the Ontario Power Company did not - with certain exceptional costs which were met with - produce revenues sufficient to meet the full costs of renewal or to provide any sinking funds. With this the case attention was drawn to the fact that while Sinking Funds were being provided in respect of the remainder of the works of the Niagara System, they were not being set up in respect of the cost of the shares of Ontario Power Company and that if this policy continued the Hydro Municipal basis - also with maturity of the bonds there might be no funds to meet them - would be departed from to a substantial extent in respect of the Ontario Power Company.





Discussions then took place as to the exact basis upon which the shares of the Ontario Power Company were held by the Commission - that is to say, as to whether the undertaking of that Company ought properly be considered as operated as an entity separate and distinct from the Niagara system, and at the risk of the Commission - as owners of it - or in the alternative as to whether it was held and operated by the Commission as Trustees for the municipalities of the Niagara system.

Acting under a general permission authorizing me to take legal advice in connection with any points that arose with the audit of the accounts of the Hydro Commission, I laid the matter before Mr. George H. Kilmer, K. C. who gave it as his opinion that the Commission held the shares of the Ontario Power Company as Trustees for the municipalities of the Niagara system. Even with that the case, however, there was no provision in the Act requiring that sinking funds should be provided in the cost of O.P.Co. power to the municipalities of the Niagara System in respect of the debentures issued by the Commission to purchase the shares of the Ontario Power Company.

Under the above conditions the situation was reported by me - informally - to the Government, with a recommendation that the matter be discussed with the Commission and legislation passed for the adoption of such a basis in respect of dealing with the matter as might be agreed upon; later in my 1920 Report the state of affairs was formally set out, with a recommendation that the matter be settled so that any basis adopted in dealing with the matter in the accounts of the Commission might have legal authority.

Later and in 1921, the matter was further discussed with the Commission, when it was resolved to put the accounts of the Ontario Power Company on a strictly Hydro municipal footing so that such a cost should be charged for power delivered by the Ontario Power Company to the Niagara system as would meet all operating costs, charges for renewals, interest on the bonds issued by the Commission in purchase of shares of the Company, and a sinking fund to repay such bonds. It may be found to be necessary to pass legislation to clarify the situation to provide legal authority for such course to be followed.

Interest Payments to the Government by the Province  
and Adjustments thereof between the Municipalities  
as against the costs of construction

When the Power Commission Act first came into force it was provided that interest at the rate of 4% should be paid to the Government in respect of all advances made by it to the Commission. During the period of construction of the works interest at this rate was added to the cost of the works and





June 3, 1922.

after their completion interest was included in the operating expenses at the rate of 4% per annum in respect of the cost of such works. Subsequently and at a later period interest rates became higher and it was found that the Province was not able to borrow money at 4%. Accordingly the Act was amended to provide that the Commission should pay to the Province interest at the actual rates paid by the Province in respect of any moneys advanced to the Commission, and this policy has been adhered to since the passing of such amendment.

With advances made from time to time by the Province at varying rates of interest the exact interest costs and rates have been charged in respect of investments in Chippawa, Nipigon the Third Pipe line and other large developments where the expenditures upon the same could be segregated. It was found absolutely impossible, however, to so allocate the advances as to determine the exact rates and amounts of interest to be paid in respect of the smaller constructions and in respect of the operations of the various systems excepting Nipigon and the Third Pipe line; accordingly the interest charges in respect of the works other than those mentioned have been combined in each year and after crediting interest received by the Commission at higher rates on amounts due by municipalities which were debtors, a net and average rate has been struck and the interest proportioned at such rates in each year; thereafter it has been charged against the works under construction and against operations in respect of work which were complete and in operation.

The conditions of affairs relative to interest was mentioned and reported upon in one of my audits.

Yours truly,

G.T. CLARKSON (Signed)





HANOVER PORTLAND CEMENT COMPANY

Information is that the Hydro Commission furnished funds for the construction of this plant or at least for part of it. It has been stated that the financing of the quarry, railroad, two and a half miles of sidings, power line, sub-stations and stepping-down stations at a total cost of \$1,250,000 was furnished by the Hydro Commission and that the property is carried on the Hydro Books at \$375,000. It is further stated that the whole plant was sold by the Hydro Commission for \$340,000. It is suggested that Mr. Landis be asked to corroborate above or to secure details of the whole transaction.

THE [illegible] [illegible]

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April 24th, 1922.

1. 637.

544

2. 181.

## I N T A K E =====

The mouth of the Welland River was chosen as the most practicable and favorable site for the intake for the Queenston-Chippewa Development for the following reasons.

(1) - Because the limiting factors in the problem as a whole made it necessary to draw Niagara River water from that portion of the main river known as the Chippawa-Grass Island Pool, into the lower portion of which the Welland River discharges.

(2) - Because four miles of the Welland River itself constitutes the first reach of the power canal.

(3) - Because the mouth of the Welland River lies in a shallow bay about three-quarters of a mile below Slater's Point. This point has a tendency, under quiescent wind conditions, to throw the flow of ice out into the centre of the Pool, leaving open water in front of the intake site.

(4) - Because the deepest water in the Pool lies along the Canadian shore in the vicinity of the mouth of the Welland River.

(5) - Because the highest velocities in the Pool were in the lower reaches of the same, at and below the mouth of the Welland River.

While certain natural conditions were taken advantage of, as above summarized, it was necessary to supplement and strengthen these natural advantages by careful attention to the layout and design of the intake works.





The two main discounting factors to be overcome by this means were:

(a) - The inadequate natural depth of water in the Chippawa-Grass Island Pool, as related to the problem of diverting the required quantity of water into the improved channel of the Welland River within reasonable limits of velocity of flow.

(b) - The low transporting velocity of the water in the main river as related to the problem of drawing the required quantity of water through the intake structure, and providing at the same time for the transportation of ice across the face of the intake without being drawn in with the diverted water.

Item (a) above was disposed of simply by removing approximately 14 feet of boulder-clay overburden from the bed-rock underlying the intake site, thus making available a clear depth of 28 to 30 feet on the sills of the sluice openings.

Item (b) was a much more serious problem, owing to the low natural transporting velocities in the main river and to the fact that the flow of ice therein is very largely governed, as to location, by the direction of the wind. North, north-east or easterly winds have an unfailing tendency to make flowing ice hug the Canadian shore and frequently this ice has been forced one quarter of a mile up the Welland River, against the current. It is evident therefore, that with the flow of the Welland River reversed by the diversion of a large quantity of Niagara River water, the tendency of the prevailing winter winds to force ice into the mouth of the Welland River would be multiplied enormously. This fact constituted the outstanding problem to be solved by the intake design, and led to an exhaustive study which extended over a period of two years, for the sole purpose of devising some means of abstracting ice-free water from the Niagara River.





The necessity for obtaining this result to the greatest extent possible was dictated by two important factors:

(1) - The necessity of protecting the turbine runners from injury by ice, or from debris carried by ice. The large capacity of the individual units, and the consequent large loss of revenue due to shut-down, together with the heavy cost of repair work, justified refined methods of protection.

(2) - The fact that the industrial life of Western Ontario will ultimately be wholly dependent upon Queenston-Chippawa power, to an ultimate extent of possibly over one million horse-power.

Such being the case, continuity of service is called for to the greatest possible extent, and by any possible means that can be devised.

The scope and results of the studies above mentioned have been fully covered in the report of Mr. E.D. Johnson and in the report on field experiments carried out by Professor Angus under the direction of the Commission's engineers. These reports are submitted herewith.

The final intake design resulting from these investigations is shown on the general plan attached. The structure shown on this plan is really two separate and distinct intakes which can be operated either separately and alone, or in any degree of combination. The portion of the structure which will be visible upon completion is nothing more than a safely designed intake of the ordinary breast-wall type, consisting of a series of equally spaced piers, founded on rock, with sluices between and controlled by gates which can be depressed to any depth below the water surface that may be necessary to meet operating conditions. This open sluice intake has sufficient capacity for a maximum supply of 25,000 cubic feet per second.

The invisible portion of the structure is a complete intake in itself, consisting of six twenty foot diameter tubes laid in the





bed of the river, with their upper surfaces about 14 feet below water level. Water is drawn from the bottom of the river into a slot in the top of each of these tubes and discharges into space behind the breast-wall through gate-controlled circular openings in the breast-wall piers. The velocity at which the water is drawn into these slots is very much less than the velocity of the water passing down stream over the tubes, so that it is not possible for ice and other material floating on the surface to be drawn down vertically 14 feet into the slots. These tubes in themselves have sufficient capacity to supply all the water required, and when ice conditions are at their worst, the breast-wall intake can be entirely closed and ice-free water can be supplied through the submerged intake tubes.

Plan 7-2-657-d shows the extent of the work it is proposed to undertake immediately in connection with the intake. It will be seen that the work to be done covers the breast-wall intake alone, with the only exception that the diffusers and circular openings in the piers are provided against the necessity of building the submerged tube intake at some future time. As above mentioned, the breast-wall intake shown on this plan is complete in itself for the full development and whether or not the supplementary tube intake will be necessary, must be proved by future experience in operation.

The total gross cost of the work done on the intake to date is \$1,035,178.65. This covers dredging, cofferdam, construction, pumping, material and dock facilities, preliminary work for concrete plant, and all overheads, including engineering, administration, superintendence, insurance, right-of-way, law costs, interest, etc. Of this amount \$765,000.00 covers actual work done and plant overhead, etc. charge to intake work up to Dec.31st; The balance of \$270,178.65





covers expenditures on sheet piling, concrete plant and overhead which were chargeable to future work to be carried on this coming year.

Of the tenders recently received for the completion of the breast-wall intake, the lowest net tender totalled \$436,727.50. Adding 15% to this total to cover engineering, contingencies and administration overheads, together with a net amount of \$110,000.00 for material and equipment supplied by the Commission, the total cost to complete becomes \$682,836.00. Adding to this the total previously expended, the grand total cost of the breast-wall intake becomes \$1,537,414.00. This investment will provide a structure which will meet the requirements of the ultimate installation under conditions of open-water flow. The extent to which it will protect the generation plant from the ice hazard remains to be ascertained by operating experience.

The above mentioned tender covers the cost of removing the sheet-piling in the coffer-dam, but does not provide for removing the fill. This item was not taken into account by reason of the fact that it will ultimately wear out of itself at a more or less uncertain rate. In any case, all the actual excavation immediately necessary will be the opening up of about 400 feet at the lower end of the fill. This will involve the removal of about 30,000 yards of soft material, and after that the rate of wear will determine the extent to which additional excavation work, if any, will be necessary. On the basis of 1914 river dredging costs at Chipawa, 45 cents per yard, an outside figure for this work should be 55 cents, or \$16,500.00 for the total of 30,000 yards. This added to the previous grand total of \$1,537,414.00 makes a final total





of \$1,653,900.00 for the completed intake ready for operation.

The temporary channel now supplying the Queenston plant has an average effective section of 2,000 square feet, and is 700 feet long.

If the intake were not completed in time to supply water for 5 units, it might be necessary to draw 9,000 second feet of water through this channel. This would mean an average velocity of 4-1/2 feet per second and would give rise to impossible conditions during ice periods. To reduce this velocity to the more reasonable limit of 2 feet per second would require the removal of an additional 60,000 yards of material, which at 55 cents per yard, would mean an expenditure of \$33,000.00. In addition to this it would be necessary to place a heavy hanging boom at the tip of the coffer-dam, running down stream not less than 1,000 feet. The cost of this boom would be roughly estimated at about \$20,000.00. If, therefore, the intake construction is not started in time to complete by December 1st. of this year, about \$53,000.00 of extra expenditure will be necessary in order to supply the plant with water until some time in the spring or early summer of 1923.

The following documents are submitted as appendices to this report,-

Report on Experiments made at Dufferin Islands, Niagara Falls, on Chippawa Intake, First Season 1918.  
R.W. Angus.

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Report on Experiments made at Dufferin Islands, Niagara  
Falls, on Chippawa Intake, Second Season 1919.  
R.W. Angus.

---

Study of Intake for 15,000 cu.ft. /sec.

R.D. Johnson & P. Wahlman.

---

Design of Intake for 15,000 cu.ft. per sec.

R.D. Johnson & P. Wahlman.

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A general description of Intake , Canal and Power House,  
and their hydraulic features.

by- T.H. Hogg.

---





*Hydro-Electric Power Commission*



of Ontario

Engineering Department

*Cable Address*  
*"Hydro" Toronto*  
CODE - A.B.C. 6TH EDITION

*190 University Avenue*  
*Toronto*

ADDRESS REPLY ATTENTION OF

*Col. Sir Adam Beck, Kt., LL.D.*  
CHAIRMAN  
*Hon. J. B. Lucas,*  
COMMISSIONER  
*W. Col. Hon. J. Carmichael, D.S.O., M.C.*  
COMMISSIONER  
*Frederick A. Gaby,*  
CHIEF ENGINEER

Dear Sir,

In respect to certain petitions received from your Township through your Council from time to time, requiring estimates on the cost of supplying power to such petitioners, I am instructed to advise you that all estimates forwarded by this Commission are hereby superseded on account of certain revisions adopted in the manner of serving Rural districts, and chiefly on account of the recent legislation bonusing Rural lines.

I am instructed to advise you that the supplying of power in rural districts shall be conducted after a manner outlined in the revised legislation, part 11-B of the Hydro Electric Power Commission Act.

It is required that a proper contract be executed between your Council and the Commission for a supply of power and to permit of the Commission constructing and operating the lines necessary to serve the customers.

The Commission will conduct the business associated with the rendering of service to your customers, and will properly account to your Council for all charges and revenue connected therewith.





Users of power in your township will be required to sign a contract with the Township, and may choose, with certain limitations, classes of service outlined as follows:-

Class I - Hamlet service includes service in hamlets, where four or more customers are served from one transformer. This class excludes farmers and power users. Service is given under three sub-classes as follows:-

I-A Service to residences where the installation does not exceed six lighting outlets or twelve sockets. Use of appliances over 600 watts is not permitted under this class.

I-B Service to residences with more than six lighting outlets or twelve sockets, and stores. Use of appliances over 750 watts permanently installed is not permitted under this class.

I-C Service to residences with electric range or permanently installed appliances greater than 750 watts.

Special or Unusual loads will be treated specially.





- Class II - House Lighting - Includes all contracts where residences cannot be grouped as in Class I. This class excludes farmers and power users.
- Class III - Light Farm Service - Includes lighting of farm buildings, power for miscellaneous small equipment, power for single phase motors, not to exceed 3 Horse Power demand, or electric range. Range and motors are not to be used simultaneously.
- Class IV - Medium Single Phase Farm Service - Includes lighting of farm buildings and power for miscellaneous small equipment, power for single phase motors, up to 5 Horse Power demand, or electric range. Range and motor are not to be used simultaneously.
- Class V - Medium 3 Phase Farm Service - Includes lighting of farm buildings and power for miscellaneous small equipment, power for 3 phase motors, up to 5 Horse Power demand, or electric range. Range and motor are not to be used simultaneously.





Class VI - Heavy Farm Service - Includes lighting of farm buildings and power for miscellaneous small equipment, power for motors up to 5 Horse Power demand, and electric range, or 10 Horse Power demand without electric range.

Class VII - Special Farm Service - Includes lighting of farm buildings, power for miscellaneous small equipment, power for 3 phase motors from 10 - 20 Horse Power demand, and electric range.

Class VIII - Syndicate Outfits - Includes any of the foregoing classes which may join in the use of a syndicate outfit, provided the summation of their relative class demand ratings is equal to the Kilowatt capacity of the syndicate.

The estimates on the cost of power delivered to users as herein set out as been based upon certain assumptions, some of which are as follows:-

The construction of the lines shall be undertaken and paid for by the Commission. The farmers in the vicinity of the roads along which the lines pass will assist in the construction and assistance will be paid for at a suitable rate of wage. Lines constructed from the line on the highway to customers' premises will be paid for by the





customer. The Commission proposes to supply the necessary expert labor to direct the construction of the lines and the installation of the equipment. It has been assumed that three farmers per mile of line, or the equivalent, are obtainable as an average for the entire district to be served. The supply of poles at low prices in the district or the vicinity of the district by efforts on the part of those desiring service will result in the reduction of the cost of construction and corresponding reduction in the cost of service. Co-operation resulting in the reduction of cost of construction is desired. The rates herein set out are also based upon a government bonus of 50% of the cost of primary lines constructed on the highway or along the right-of-way.

Charges for power delivered shall consist of two parts, namely, the service charge and the consumption charge. The service charge which constitutes the greater portion of the total cost of power delivered, consists of the operating, maintaining and fixed charges of the lines and equipment required to deliver the power to the users in the district. Consumption charges will be determined by a meter at each customers' premises, which will measure the quantity of power used to which a suitable rate will be applied. This cost can only be arrived at when the amount used has been determined. The rate used in the district will be determined by the cost of power at the transformer station supplying the district. The amount of power supplied to the district will be metered at the transformer station.





The meter rates for users in that part of your Township which will be supplied from are estimated as follows:-

6¢ per Kilowatt hour for the first 14 hours use per month of customers' class demand rating.

3¢ per Kilowatt hour for all remaining uses.

Less 10% for Prompt Payment.

The following table gives class demand rating, average monthly kilowatt hours, estimated consumption charge, estimated service charge, and total estimated annual cost for each class:-

Class	Name	Demand Rating		Average Monthly K.W.H.	Est. Annual Consumption Charge	Est. Annual Service Charge	Total Est Annual Cost
		Kw.	H.P.				
		(a) $\frac{1}{2}$	2/3	10	5.52	17.59	23.11
I	Hamlet Service	(b) $\frac{3}{4}$	1	15	8.16	20.50	28.66
		(c)2	2-2/3	150	57.72	36.44	94.16
II	House Lighting	1	I-1/3	15	9.48	30.05	39.53
III	Light Farm. Ser.	3	4	40	25.92	60.82	86.74
IV	Medium single phase farm ser.	5	6-2/3	70	45.36	66.94	112.30
V	Medium 3 phase farm service	5	6-2/3	70	45.36	84.50	129.86
VI	Heavy farm ser.	9	12	150	89.40	130.97	220.37
VII	Special " "	15	20	300	165.24	188.90	354.14

The above costs are calculated from our knowledge of the use of electric power in rural districts under average conditions. They have been adjusted by applying the rates as set out herein.



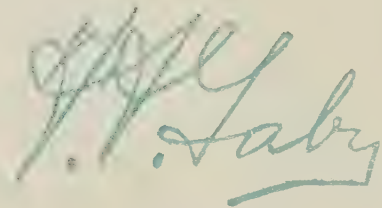


For those unfamiliar with terms used in power measurement, it is to be noted that one Kilo-watt (K.W.,) is approximately equal to 1-1/3 horse power (H.P.,) or 3 K.W. equals 4 H.P., and a kilo-watt hour (K.H.W.) is the amount of electricity equivalent to one kilowatt used for one hour.

The rates will be re-adjusted by the Commission from time to time in your district to cover cost. Increase in the average number of farmers per mile or lower cost of power will reduce the annual costs to all.

The Commission upon request by your Council will send a representative to explain the method of rendering service to rural communities, and will assist your Council in securing contracts with individuals desiring service.

Yours truly,

A handwritten signature in dark ink, appearing to read "J. H. Laby". The signature is fluid and cursive, with a prominent "L" and "y".

Chief Engineer





Organization - Head Office - The Commission.

Neenawton-Chippawa Power Development  
Personnel  
Records

Field Office -

Personnel  
Records

Superintendence

Personnel  
Records

Staff Relations in DetailContract Work - Invitation to Tender  
Contracts let.

Construction Plant - Inventory, status and direction of all plant used by force account, subdivided according to the basic elements of the development as set forth in the headings under "General Description", together with capacity and daily, minimum, maximum and average output of the more important machines.

Quantities -

quantities of work done of every classification, subdivided according to the basic elements of the development as set forth in the headings under "General Description."

Costs -

Total cost of the work, completely defined. Cost of work done of every classification, sub-divided according to the basic elements of the development as set forth in the headings under "General Description".

Unit costs of work done of every classification.

Revision of the Development -

Full information regarding estimates, revisions, and changes made from time to time in detail.





Comparison of Various Main estimates and Actual Cost

Discussions -

Quality of Work

Speed of Construction

Exigencies of Period of Construction -  
Labour Market and  
inefficiency

War Prices

Market generally

War Taxes

Exchange and so forth

General Design

Unit Costs

General

The Outlook.

(SGD) Walter. J. Francis.





HY-10-1000000 IN 1000000000

AGENDA

Tuesday,  
31st May, 1932.

1. Minutes.
2. Business arising out of Minutes.
3. Re Hayner *see ar. 6/1/22*
4. General Business.

PCC/237.





HYPO-ELECTRIC INQUIRY COMMITTEE

AGENDA

Tuesday,  
30th May, 1912.

- ✓ 1. Minutes
- ✓ 2. Business arising out of Minutes.
- ✓ 3. Report of Secretary
- ~~4. Additional floor space~~
5. Arrangements with Clipping Bureau.

{ Mitchell + Hollinsworth to  
Simpson  
Simpson

5/30/12

FWW/HBF.





HYDRO-ELECTRIC EXHIBIT COMMISSION

AGENDA

Thursday,  
25th May, 1932.

- ✓ 1. Minutes,
- ✓ 2. Business arising out of Minutes, *Committee's report*
- ✓ 3. Report of Secretary, *to be read by Mr. Landis*
- ✓ 4. Number of copies to be made of Mr. Landis' material.
- 5. General Business.

*We agree to the following  
viz. at expense of all members  
in proportion to their income  
and to have the same of the  
year 1932 and 1933.*

FWT/REP.

*Let it be decided as follows  
{ direct of members  
to be paid and so on.*





April 28, 1932

The Royal Commission has been constituted by the Provincial Government to investigate the past history of the Hydro-Electric Commission, and to suggest procedure for the future.

To this end the Government has asked specific questions of the Royal Commission, the answer to which must be based on the latter's inquiry into the Hydro-Electric Commission, Nos. 1 to 7 inclusive of the reference and covering the Chippewa Development only.

In addition to clause No. 8, the Royal Commission is requested to extend its investigation to other activities of the Hydro-Commission and to report thereon.

In Clause No. 9, the Royal Commission is directed to report on the evidence and facts of the Government and to report evidence and facts.

(See Schedule "A" the Reference)

This memorandum is based upon the suggestion that first consideration should be given to the Chippewa matter covered by quires Nos. 1 to 7 inclusive, leaving other questions in abeyance for the moment, in which case the procedure might be as follows.

1. Present to the Hydro-Electric Commission for their answer quires Nos. 1 to 7, which, when received, would indicate the nature of the information required by the Royal Commission in order to answer the specific questions of the Government. (See Schedule "B")

2. After receipt of the answers to Schedule "B" and their consideration by the Royal Commission and its engineering, actuarial and legal advisers a further set of questions upon specific points will probably be necessary as the situation develops.

(Here insert Schedule "A" corrected to the wording of the reference)



to be submitted to the Hydro-Electric Power Commission for reply and covering only the Chippewa Development, comprising queries Nos. 1 - 7 inclusive of Schedule "A".

1. "All estimates prepared from time to time by the Commission and all estimates submitted by the Commission to the Government covering the Chippewa Development"

Copies of these documents would be desirable, but if too voluminous originals may be acceptable at the option of the Royal Commission.

2. "Reasons for the increase from time to time in the estimates for the Chippewa Developments".

(a) A progressive summary of comparative general items would be desirable, showing increases, diminutions, and differences in the estimates given in No. 1, with reasons.

(b) Supporting facts covering quantities, unit prices, labor rates, working rates, elapsed time, financing, etc., used in computing estimates.

(c) General considerations in the situation which suggested to the Hydro-Electric Commission the advisability of increasing the power development.

(d) What should the cost have been if the prevailing prices for labor and materials in 1916 had been continued and the efficiency of labor maintained at that of 1916.

3. "The total cost of the completed Chippewa Power Development"

(a) With five units installed.

(b) With units installed to the full capacity of the canal.

(ca) Statement of Cash Payments to April 1st, 1922,  
" " Commitments on Contracts to April 1, 1922,  
" " Contingent liabilities to April 1, 1922  
" " Accounting " " " "

(cb) Estimated cost of completion of Canal and general works and of power houses and equipment for the five units not included in (ca) from April 1st, 1922.

(cc) Estimated financial and physical changes to be added to above to cover interest, discount, management, etc., from April 1st, 1922.

(cd) Total estimated cost of completion of Canal and general works and of power houses and equipment for the five units not included in (ca) from April 1st, 1922.

(ce) Proposed prices for completion of the five units not included in (ca) from April 1st, 1922.











6. (a) "The quantity of water now available for use by means of the Chippewa Canal."
- (b) "The power that can be developed thereby in continuous output at the Queenston Power Station".
- (aa) A statement of the water available under the treaty as interpreted by the Government, the Joint Commission, and the Hydro-Electric Commission; with discussion of differences and possibilities for future increased diversions.
- (ab) Under assumed efficiencies to be given what power will be available under the perhaps discordant interpretations of (aa).

7. "In What Manner and to What extent will the price of Niagara Power be affected if at all by the cost of the Chippewa Development".

- (a) Costs of power at Niagara Board of Control unit in detail of capital, operating, maintenance, repairs, etc., since commencement of Hydro-Electric operations to 1922.
- (b) Costs of power as above estimated, yearly, for the next ten years with estimated loads and Ontario Power Company running full, and all the water required available.
- (c) Costs of power as above estimated yearly for the next five years with estimated loads and Ontario Power Company shut down completely with all the water required available.
- (d) From the above deduce the best combination of use of Ontario and Chippewa Plants to produce minimum cost of power with all the water required available.
- (e) Should present treaty restrictions continue what effects on the cost above would be produced.
- (f) The results of "a" "b" "c" "d" "e" might well be shown as curves of horsepower cost for the total period.



6/7

*Handwritten:* Annual Report  
Hydro-Electric Power Commission

Annual Report of Mr. H. J. Macdonald

Upon the Accounts of the Hydro-  
Electric Power Commission of  
Ontario for year ending  
31st October, 1920

" On the 29th July, 1920, the Commission entered into an agreement with the Hanover Portland Cement Company Limited whereby that Company agreed to convey to the Commission an option which it held on a stone quarry in the vicinity of Walkerton. Under the option so conveyed the Commission purchased the quarry on 15th September, 1920, paying therefor the sum of \$125,000. and to 31st October 1920 the Commission had expended \$14,838.87 in improvements to the property, constructing a railway spur to it and in the purchase of quarry equipment, thereby increasing his investment to \$41,938.87.

The expenditures upon such quarry are included in the above as part of the expenditures made in respect of the Niagara Power Development, for the reason that for the time being practically all the stone taken from the quarry is consumed in the manufacture of cement which is being used on the construction of the Chippewa Canal.

The agreement between the Commission and the Hanover Portland Cement Company Limited is to remain in force for a period of two years from 25th July 1920 and is renewable by the Commission as it may require. Under its terms the Company agrees to purchase stone from the Commission at cost plus an operating profit calculated at so much per barrel. Upon the termination of the agreement the Company agrees to purchase the stone quarry and equipment at cost to the Commission less fair allowance for depreciation. According to the agreement the Commission agrees to use cement only for the purpose of the Commission, the municipalities under contract with it, its subsidiary companies and the Central Ontario system.





WIND-ELCTRIC LIGHT COMPANY

A G E N D A

Friday.  
20th May, 1922.

1. Minutes.

2. Business arising out of Minutes.

3. Report of Mr. Landis

Number of copies to be made of Mr. Landis' material.

4. Report of Secretary.

5. General Business.

842/152.





May 1st, 1933.

Memorandum for Mr. Fairfield

Royal Commission, Ontario Hydro-Electric Power Commission Inquiry  
Chippewa Development

Preparation of Engineering Data

The Owenston-Chippewa Development

Historical - Preliminary considerations - Dates,  
Immediate Power needs,  
Future Power needs

Design Period - Dates  
Studies  
Decisions

Construction Period - Dates  
Sequence of Operations

Present Status

Advisory Reports In General.  
Recommendations adopted.  
Reports in Detail as far as necessary  
(As Appendix)

Power Available Elevations.  
Flow  
Hydraulic capacity of various elements of  
Development.

General Description - Right of Way and Crossings.  
Intake  
Welland River  
Canal  
Forebay  
Screen House  
Penstocks  
Power House - (The Building  
(Turbines  
(Generator  
(Service Plant.  
(Auxiliary Plant  
(Electrical Equipment  
(Accessories  
(Oil collars etc)  
Tail Race

1941, 1942

1943, 1944

1945, 1946

1947, 1948

1949, 1950

1951, 1952

1953, 1954

1955, 1956

1957, 1958

1959, 1960

1961, 1962

1963, 1964

1965, 1966

1967, 1968

1969, 1970

1971, 1972

1973, 1974

1975, 1976

1977, 1978

1979, 1980

1981, 1982

1983, 1984

1985, 1986

1987, 1988

1989, 1990

1991, 1992

1993, 1994

1995, 1996

1997, 1998

1999, 2000

2001, 2002

2003, 2004

2005, 2006

2007, 2008

2009, 2010

MEMORANDUM FOR THE RECORD

HYDRO-ELECTRIC DEVELOPMENT

Toronto,  
Friday  
8th May, 1933.

The following documents are proposed for retention:-

1. Journal of Political Economy for January, 1933, published by University of Chicago - 2 copies:

Containing article by E. E. Shaver "The Ontario Power Commission: Its Origin and Development".

2. Memorandum prepared by Allan H. Ryerson in 1916 for the Premier - 1 copy from the custody of Mr. Collie, to be returned.

The principal significance of this memorandum at the present time lies in the fact that it sets out the legal rights and conditions surrounding the private power companies operating at Niagara Falls, with possible means of compelling these companies to supply power or of securing a supply of water to develop a competing generating system. It was apparently not contemplated at that time that the companies would be bought out.

3. Original copy of the Act of 1904 as read a first time from the files of the Legislative Assembly, to be returned immediately.
4. Original copy of the Act of 1906 as passed in Committee. From the files of the Legislative Assembly, to be returned immediately.
5. Memorandum prepared by Mr. J. A. Hillis for Hon. E. M. Brady recommending on certain evidence of authority by the Hydro-Electric Power Commission, as pointed out in the Clarke Report, and suggesting remedial.
6. Book "An Expensive Experiment" by E. F. Nelson, an American, dealing with the Hydro-Electric Power Commission of Ontario - Copy borrowed in name of Leighton Foster from Legislative Library.
7. Book "Hydro-Electric Development in Ontario" by E. E. Shaver.





Mr. Harris brought up the question of the count inventory which Mr. Mitchell is making at Niagara. It was decided that this inventory would be useless to the Inquiry Commission as it does not take into consideration the question of depreciation, being merely a straight count of supplies, but it might be possible for the Inquiry Commission's men to work in conjunction with General Mitchell.

It was understood that Mr. Landis when he was at Niagara would find out how long it would take General Mitchell to finish his inventory.

It was suggested also that the Chairman should arrange to have General Mitchell's instructions extended so as to include an estimate of depreciation.





HYDRO-ELECTRIC INQUIRY COMMISSION.

MEMO OF DISCUSSION.

Toronto,  
May 11th,  
1922.

Mr. Gregory read a letter from the Secretary of the Hydro-Electric Power Commission stating that arrangements had been made for a Joint Meeting of the Inquiry Commission, the Power Commission and the Government, early next week, and asking for a copy of the Minutes of the meeting with Sir Adam Beck.

Mr. Francis stated that Sir Adam Beck seemed to agree that our Engineers had his authority to work with his men. The first thing that should be done is to go into all accounts and for this purpose it would be well to coordinate with Mr. McCollum, the Municipal Auditor. It was proposed that they confine themselves in the meantime to the Chippawa work.

Mr. Francis thought that the first thing necessary was to find out just what was to be expected of the Hydro Commission staff. The man next below Mr. Gaby would be the man whose time would be largely occupied.

This brought up the question of charges to be made against the Inquiry Commission.

Considerable discussion ensued as to the number of copies that should be made of material. Mr. Francis stated that up to the present six copies had been made, three to be retained by the Hydro Commission and three to be given to the Inquiry Commission. He thought that one copy for each, instead of three, would be sufficient in most cases. He pointed out that in the case of some of the maps, considerable hand work was necessary and this was expensive.

It was understood that the question of any charges to be made by the Hydro Commission should be left in abeyance until after the Joint Meeting on Monday, but that Mr. Gregory should in the meantime write to the Hydro Commission requesting that a statement of charges incurred should be made up as early as Monday next.

Mr. Francis stated that his office accommodation was not satisfactory and after some discussion as to where other offices might be obtained it was decided that it would be desirable to have the Engineer's offices either in this building or in the Hydro Building. It was understood that Mr. Gregory would confer with Mr. Gaby to see if it were possible to arrange for offices in the Hydro Building or vicinity, failing this, it was thought space might be obtained in this building.

1772

There is a large number of people who are interested in the subject of the history of the United States. They are interested in the history of the United States because it is a country that has been built by the people of the United States. They are interested in the history of the United States because it is a country that has been built by the people of the United States.

The history of the United States is a story of the people of the United States. It is a story of the people of the United States who have built this country. It is a story of the people of the United States who have built this country. It is a story of the people of the United States who have built this country.

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Mr. Landis brought up the question of the method of procedure in getting the information necessary for his work. He reported that he had been going over the Hydro-Electric Legislations and the Auditors' Reports with a view of getting a general view of the work.

He proposed with Mr. Francis to go to Niagara on Saturday to get a bird's eye view of the Chippawa work.

As to the more detailed examination of the account of the Hydro Commission he was delayed in the meantime by the requirement of the Hydro Commission that specific requests for information should be submitted in writing by the Chairman.

The Commission felt that in view of the interview with Mr. Clarkson and subsequently with Sir Adam Beck, the Hydro Commission would probably recede from this position. It was thought that if the Chairman took the matter up with Mr. Clarkson the matter could be arranged.

Some further discussion took place as to the propriety of making any charge against the Inquiry Commission for the information supplied by the Hydro Commission.

Mr. J. A. Ross asked Mr. McClelland and Mr. Landis for their opinion as to whether it would be proper for the Hydro Commission to make this an Over-Head Charge, which would be absorbed by the Municipalities in the cost of Power.

Mr. McClelland and Mr. Landis expressed their opinion that it would be perfectly proper to make this charge.

It was suggested that Mr. Landis should go carefully into the question of the charges which had been met by the Government in the case of Municipalities where the Hydro Commission had made an investigation, or performed other services, but in which no contract had been made to take Power. It was thought that the General Funds supplied by the Government might also be found to have been charged with advertising and it was suggested that the auditors look into this.

It was further suggested that the local Municipalities might have been charged in their Power account for an item of advertising and that if this were so it would justify the position that the Hydro Commission might properly absorb the charges for the Inquiry Commission.

Mr. Hasey suggested that Mr. Landis find out while at Chippawa the system of checking the pay rolls and time keepers, and then, if necessary, check some of the pay rolls.



THE UNITED STATES OF AMERICA  
DO hereby certify that the following  
is a true and correct copy of the  
original as the same appears on file  
in the Department of the Interior.

IN WITNESS WHEREOF, the Secretary of the Interior  
has hereunto set his hand and the seal of the  
Department at Washington, D.C., this 1st day of  
January, 1901.

JOHN ROBERTSON, Secretary of the Interior.

Approved by the Secretary of the Interior  
this 1st day of January, 1901.

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GENERAL

HISTORY

Stage of Development of Electric Power Transmission in Ontario in 1902. (See Report on "Municipal Trading" prepared by Avern Purdee for Select Committee of Ont. Leg. appointed by Ross Gov't.)

Comparison with other Provinces.

Ontario -- John J. Barker, Transmitted Electrical Power 2 miles at Georgetown in 1883 -- first in the world?

Comparison with the United States.

Comparison with other Countries.

Circumstances giving rise to original scheme of Hydro Electric System.

Coal Strike in Pennsylvania in 1902

Suggestion of Lord Dufferin in 1893 of National Parks at Niagara.

Opening of Victoria Park, Niagara Falls, May 24th, 1888, Cost \$525,000.

Disappointing revenue from concessions and consequent leasing of power rights.

Wrenching of Private Enterprises at Niagara Falls.

International Treaties Controlling Water Supply.

Huron Act.

International Waterways Comm.

Initiation of Hydro Electric Scheme

(H. B. Betweller -- F. H. B. Snider -- January 31 Power Users -- Meeting at Berlin -- Meeting at F. H. B. Berlin -- Informal Meeting at Berlin June, 1902 -- Snider (Chairman), Betweller, (Secretary). Present -- Adam Beck, Ald. F. H. B. Snider, H. B. Mitchell, -- adjourned meeting July -- appointed committee composed of Snider, Betweller, and Spence.)

THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF CHEMISTRY  
CHICAGO, ILLINOIS 60637

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Early Estimates of Expenses for Power

Early Engineering Reports

Political History

History of Early Legislation

(Application of City of Toronto, January 1903 for Private Bill to authorize transmission of power -- application refused on ground financial obligation was for benefit of particular section of Province.)

Meeting February 17th, 1903 to receive report of Committee.

Meeting in Toronto February ? 1903.

Delegation February 1903, -- Snider and Spence -- spoke for men.

Advocated cooperative municipal scheme. Ross promised legislation authorizing scheme.

1903 Whitney, Opposition leader, criticized gov't for [Apr] granting franchise to Electrical Development Company and urged appointment of Commission of Enquiry.

1903 Government appointed special committee to report [May] on the municipal ownership or operation of public utilities. Aaron Vardoe (Sec.)/Report.

1903 Government passed "Act for the construction of [June] Municipal Power Plants and the Transmission, Distribution and Supply of Electrical and other Power and Energy."

1903 Rep's of 7 municipalities set under authority [Aug] above Act. appointed Investigating Commission-- (Snider (Chairman) Ellis, Cockshutt, Beck, Resenden, [Washington, D.C.] Knight, (Barrister, Waterloo-Don. Sec'y) Ross & Holgate (Engineers Montreal) made technical investigation at cost.

The fund for investigation was provided by municipal subscriptions amounting to \$12,000, of which Toronto contributed \$11,756 and London \$1,542.



1900 Report of Miller Commission and Report of  
(Mr) Arthur V. White presented to public.

1903 Whitney returned as Premier in general election  
and stated in campaign that Niagara should be  
as "free as the air".

1905 Whitney repealed Act of 1903 and passed an Act  
(July) creating the "Hydro Electric Power Commission  
of Ontario".

Beck appointed member of Cabinet to work out  
power policy of Province. Appointed chair-  
man of the Commission. Sec. Patterson of  
Preston and F.W. Ellis were the other Comm-  
issioners.

Cecil B. Smith appointed Engineer to make  
survey of water power stored for Province  
8 reports. (Bigger 49)

#### Appointment of Permanent Commission.

Hon. Adam Beck (Chairman)  
Hon. J.S. Hendry  
Hon. W.K. McNaught

#### History of Construction of Niagara Transmission System.

Original Plan  
Changes  
Extensions.

#### Administration during construction Period.

#### Relations with Generating Companies.

#### Effect of Hydro Electric System on Vested and other Private Interests.

Expropriation  
Private Systems  
Contests with Adverse Interests.

#### Growth and Development of Niagara System







## Acquisition of Ontario Power Company

- Circumstances leading to acquisition
- Assuagement of Municipalities
- Method and terms of acquisition.
- Authority for acquisition.
- Ownership of Property
- Responsibility for indebtedness
- Prospects of liquidation
- Relation to Chippewa Development
- Construction of Third Pipe Line
  - Circumstances leading to construction
  - Authority for construction
  - Permanency of work
  - Appropriation for payment
  - Amortization of cost
  - Effect on cost of power
  - Justification for undertaking.

## Relation of Hydro-Electric Power Commission to Government

### Powers of Commission

- Relation to Executive Council
  - In Law

- In Practice

- Fiscal Relation

- Responsibility for Expenditure

- To the Government
  - To the Municipalities

- Authorisation of Expenditure

- Exceeding appropriations
  - Bar-making appropriations

- Methods of Check and Control

- Relation of Auditor to Commission.



Acquisition of Gas and Power Company

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J. A. Ross.

HYDRO-ELECTRIC INQUIRY COMMISSION

TORONTO  
Thursday,  
May 11th, 1922.

The Commission met at 11 a.m.

Present:-

The Chairman  
Mr. M. J. Haney.  
Mr. R. A. Ross,  
Mr. J. A. Ross,  
Mr. Lloyd Harris

and the Secretary.

and Walter J. Francis  
and Mr. P. Landis  
and Mr. McClelland

For proceedings see attached Memo of Discussion.

Secretary

F.W.W./ L.L.



HYDRO-ELECTRIC INDUSTRY COMMISSION

TORONTO  
THURSDAY,  
MAY 11th, 1922.

The Commission met at 11 a.m.

Present:-

The Chairman  
Mr. M. J. Haney.  
Mr. J. A. Ross,  
Mr. J. A. Ross,  
Mr. J. A. Ross,  
Mr. Lloyd Harris

and the Secretary.

and Walter J. Francis  
and Mr. P. Lambie  
and Mr. Hoffmann

For proceedings see attached Memo of Discussion.

Secretary

J. A. Ross